

# Welcome back...

H. Leslie Grebe



## Opening Question:

How do stars spend the main part of their "lives"?

KJ

Sep 7-7:04 AM

## Gravity vs. Pressure:

- GRAVITY PULLS IN
- NUCLEAR FUSION, ENERGY PUSHES OUT

## Temperature:

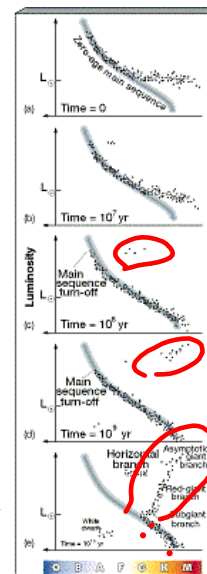
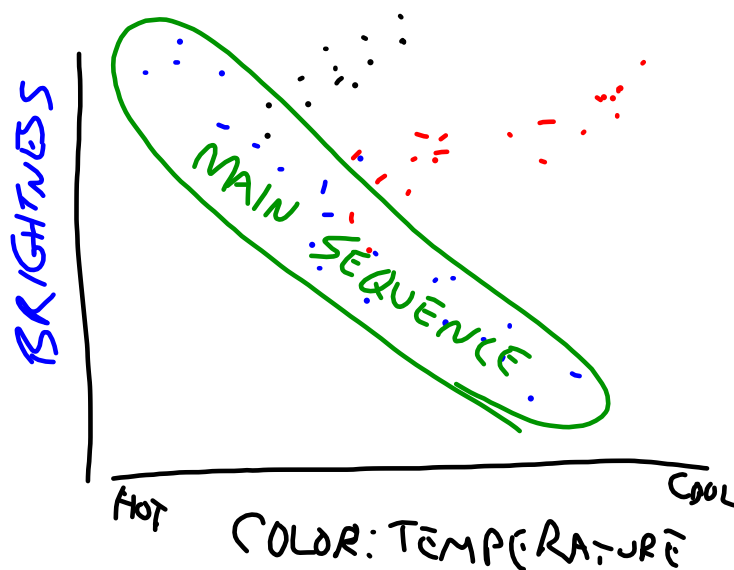
BLACK  
RED  
<WHITE>  
BLUE

## What are clusters?

- GROUPS OF STARS HANGING AROUND OUTER PARTS OF M.W.G.
- THINK THE GROUP FORMED AT THE SAME TIME
- ALL ~ SAME DISTANCE

May 21-7:56 AM

Main Sequence - where stars spend most of their lives



May 24-7:30 AM

### Our 3 Questions

- \* Most periods except test/project times
- \* 3 Questions on the topics of the class
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You can't get your points if you don't have your **NAME!!!**

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1) What is measured along the bottom axis of our star chart?

TEMP / COLOR

2) What is the area called where stars spend most of their lives?

- a) the big bang
- b) the solar system
- c) the main sequence

3) The cluster we graphed, how old does it appear to be?

- a) young
- b) middle-aged
- c) old

Jun 18-11:20 AM

# Welcome to PHYSICS!!!

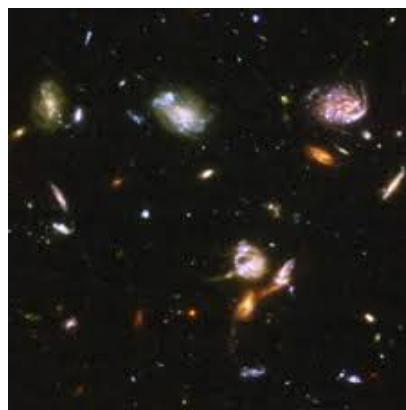
H. Leslie Grebe

SECA Physics  
Friday 27 June 2014



## Opening Question:

What makes a galaxy a galaxy?



Sep 7-7:04 AM

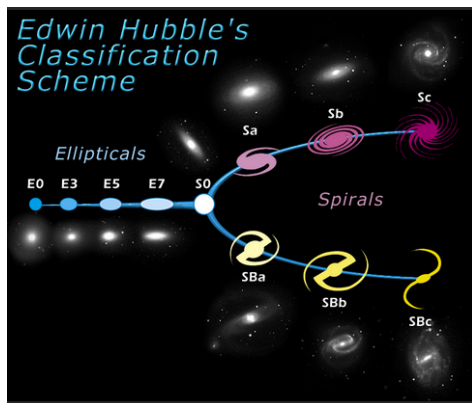
**Solar System:** - our star (the sun) + planets, comets, asteroids, ...  
= our neighborhood

**Galaxy:** - a collection of billions of solar systems  
= a group of billions of stars

### Computer Lab

Sloan Digital Sky Survey  
Classifying galaxies...

May 21-7:56 AM



Jun 27-1:55 PM

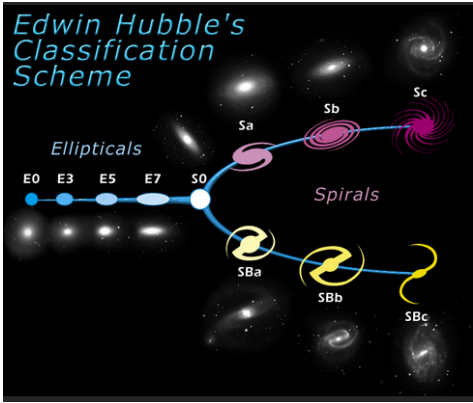
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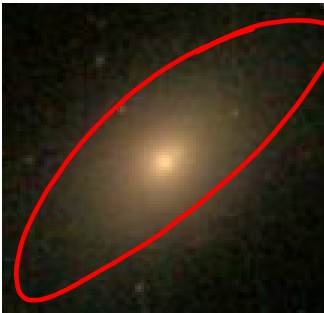
Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM



Classify each of these galaxies based on Hubble's system...

1)



E S/7

2)



SA

3)

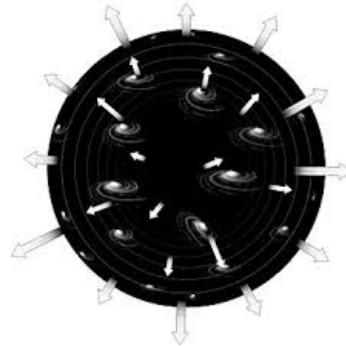


SBb

Apr 16-7:13 AM

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## Opening Question:

If everything in the universe is expanding away from the Milky Way, is it the center of the universe?

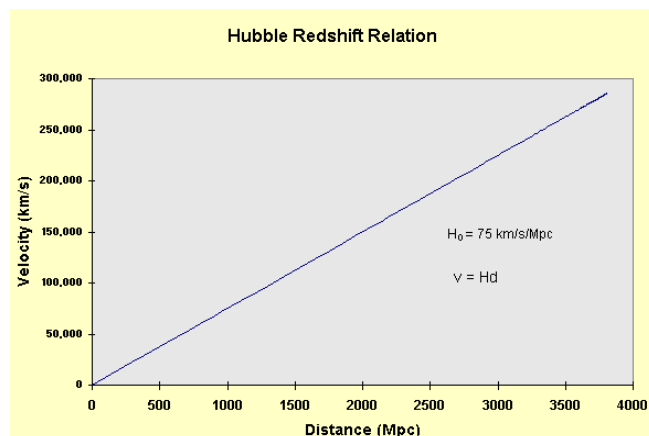
Sep 7-7:04 AM

Of balloons and raisin bread:

What did we find?

- does it matter which one is "home"?

Hubble's Law:



May 21-7:56 AM

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Sep 9-7:32 AM

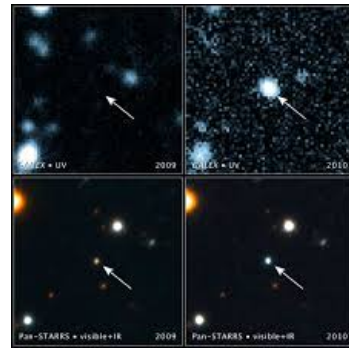
- 1) Dots that were farther away from "home" moved away
  - a) slower
  - b) all the same speed
  - c) faster
- 2) For the result in part 1, does it matter which dot is #1 ("home")?  
(yes or no)
- 3) The name for how the dots move away is
  - a) the big bang
  - b) the Milky Way
  - c) Hubble's Law

Jun 26-2:34 PM

# Welcome back...

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## Seeing Black Holes



Sep 7-7:04 AM